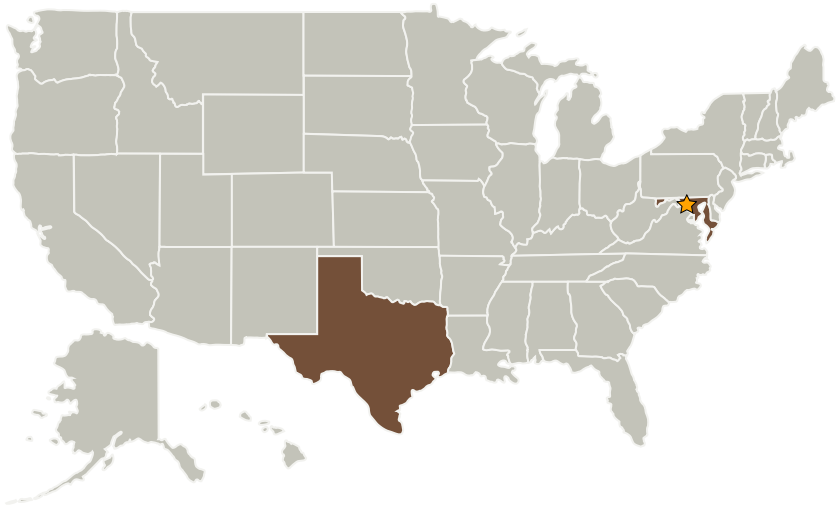
Reliable High Performance Processing System (RHPPS), Phase II

Completed Technology Project (2009 - 2010)

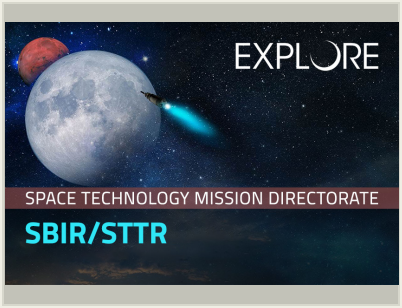
Project Introduction

NASA's exploration, science, and space operations systems are critically dependent on the hardware technologies used in their implementation. Specifically, the performance and deployment of autonomous and computationally-intensive capabilities for space based observatories, orbiters, autonomous landing and hazard avoidance, autonomous rendezvous and capture, robotics, relative navigation, and command, control and communications systems are directly dependent on the availability of radiation-tolerant, high-performance, reconfigurable and adaptable, energy-efficient processor technology. Coherent Logix, Incorporated proposes to develop a radiation tolerant HyperX technology based processor to address these critical needs. This program will leverage more than $18M of previous investment by the Department of Defense. Building on the research done in Phase I, the Phase 2 program will develop the radiation hardened by design (RHBD) HyperX. This will be followed in Phase 3 by the completion and productization to a TRL 8/9 of a Radiation Tolerant HyperX Processor.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Coherent Logix, Inc.	Supporting Organization	Industry	Austin, Texas



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
Maryland	Texas

Project Transitions

April 2009: Project Start

June 2010: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - TX02.1 Avionics Component Technologies
    - TX02.1.1 Radiation Hardened Extreme Environment Components and Implementations